

Deploying Educational Roaming (eduroam) in a Rural Research Institution in Rakai, Uganda; Challenges and Lessons Learned

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eduroam: education roaming

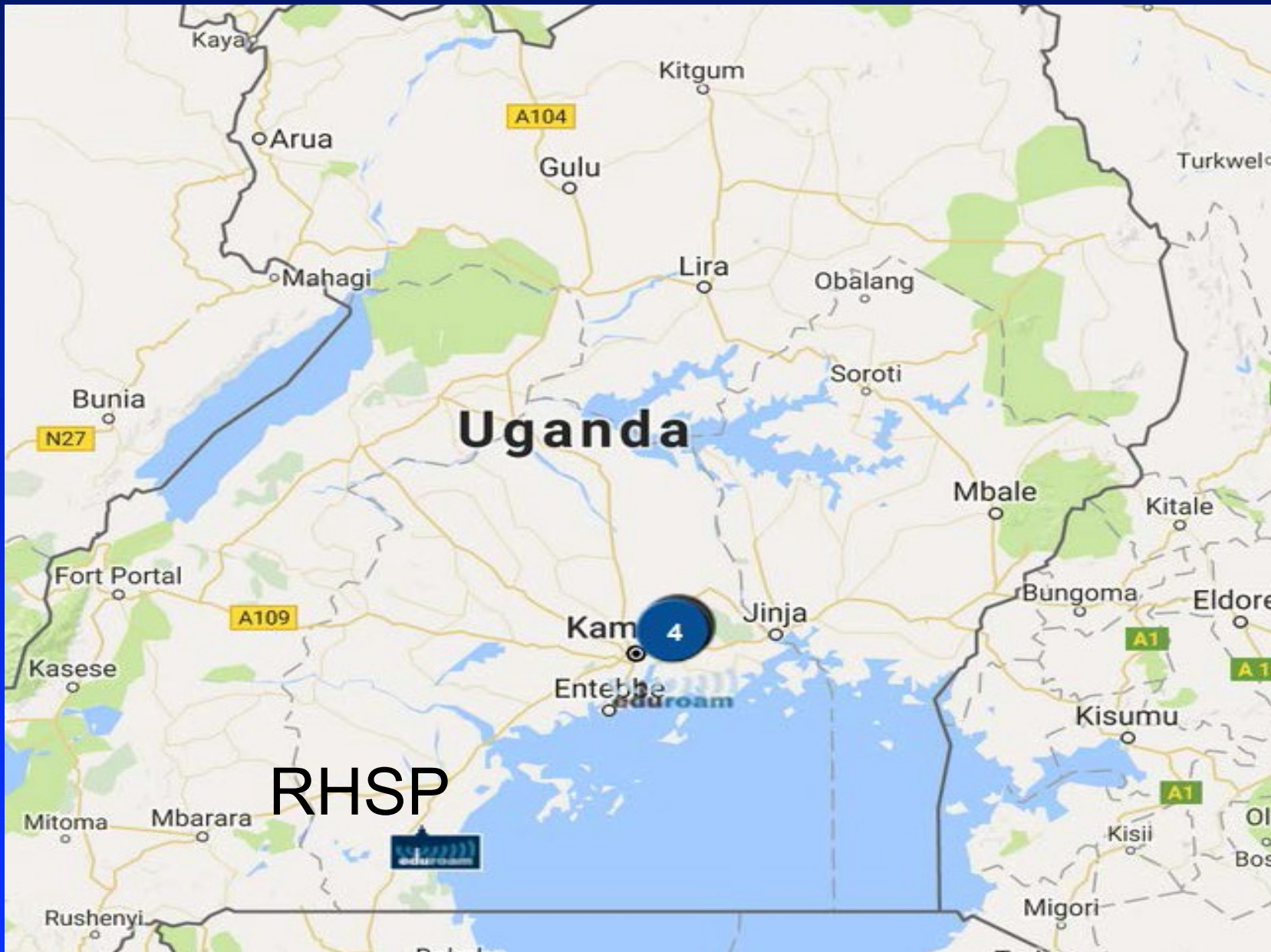
Offers users from participating academic and research institutions secure Internet access at any other eduroam participating location worldwide



Time Lines for eduroam deployment

- RENU became 75th roaming operator early this year
- 5 service providers connecting through RENU
 - **Makerere University**
 - **Infectious Disease Institute**
 - **Uganda Christian University**
 - **Rakai Health Sciences Program / NIH ICER**
 - **Uganda Management Institute**
- RHSP/NIH ICER was the 4th service provider

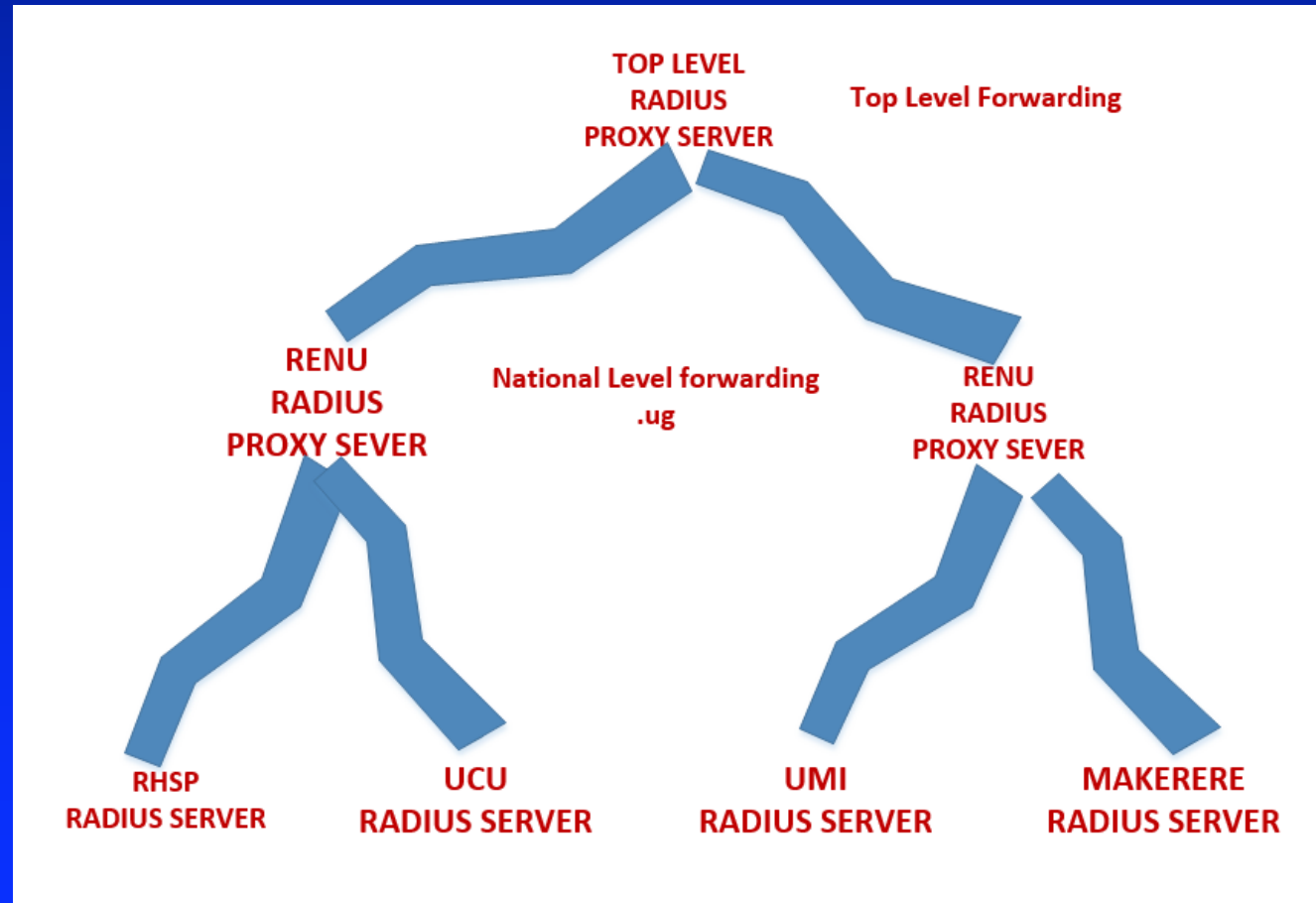




RHSP



eduroam radius hierarchy

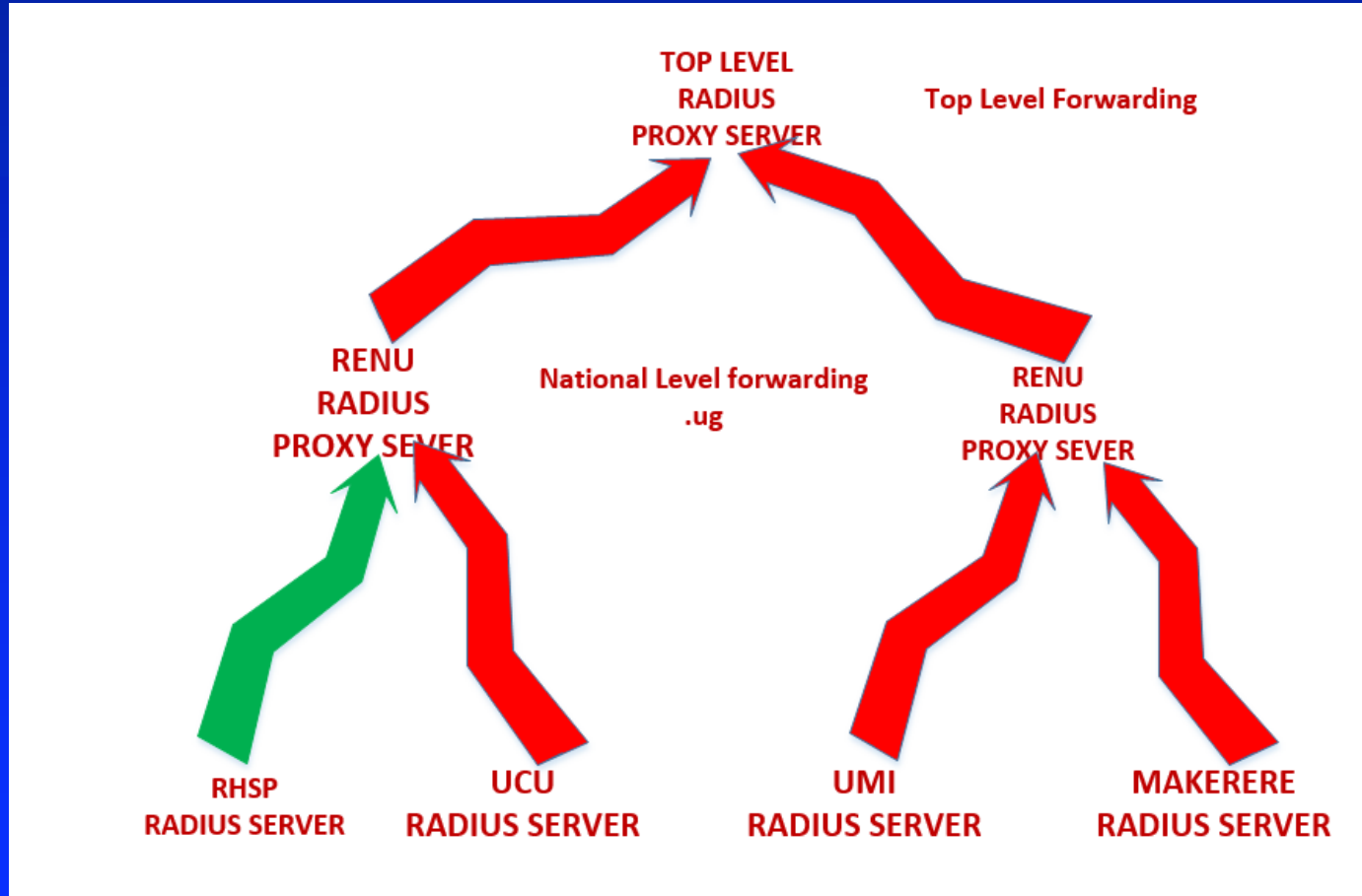


Challenges encountered while deploying eduroam

- TLD registrations and implementation
- Various platforms used for RADIUS server software
- Takes a lot of time to plan and implement
- Lack of clear documentation to bench mark
- specific DNS requirements

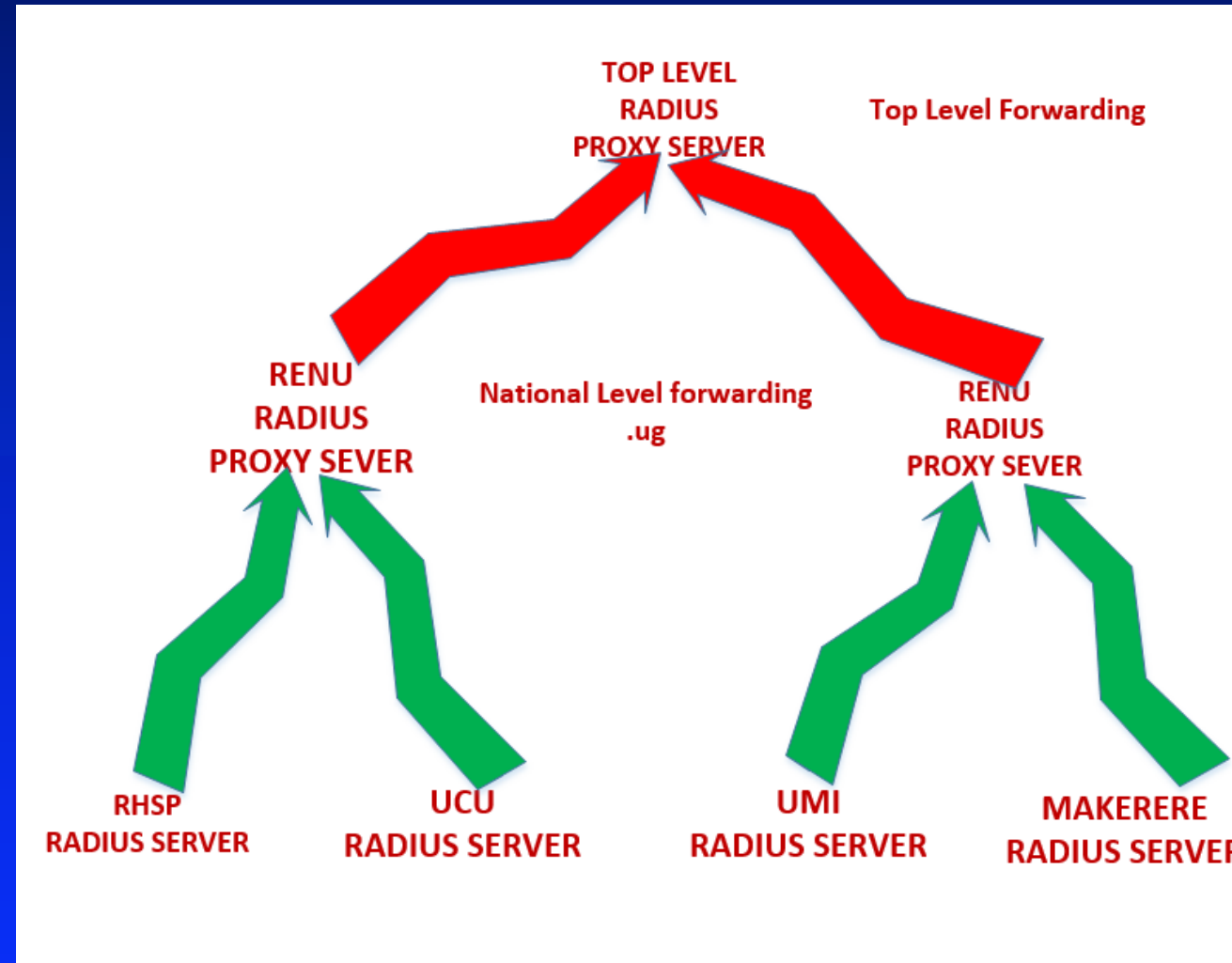


RHSP.ORG user unable to roam

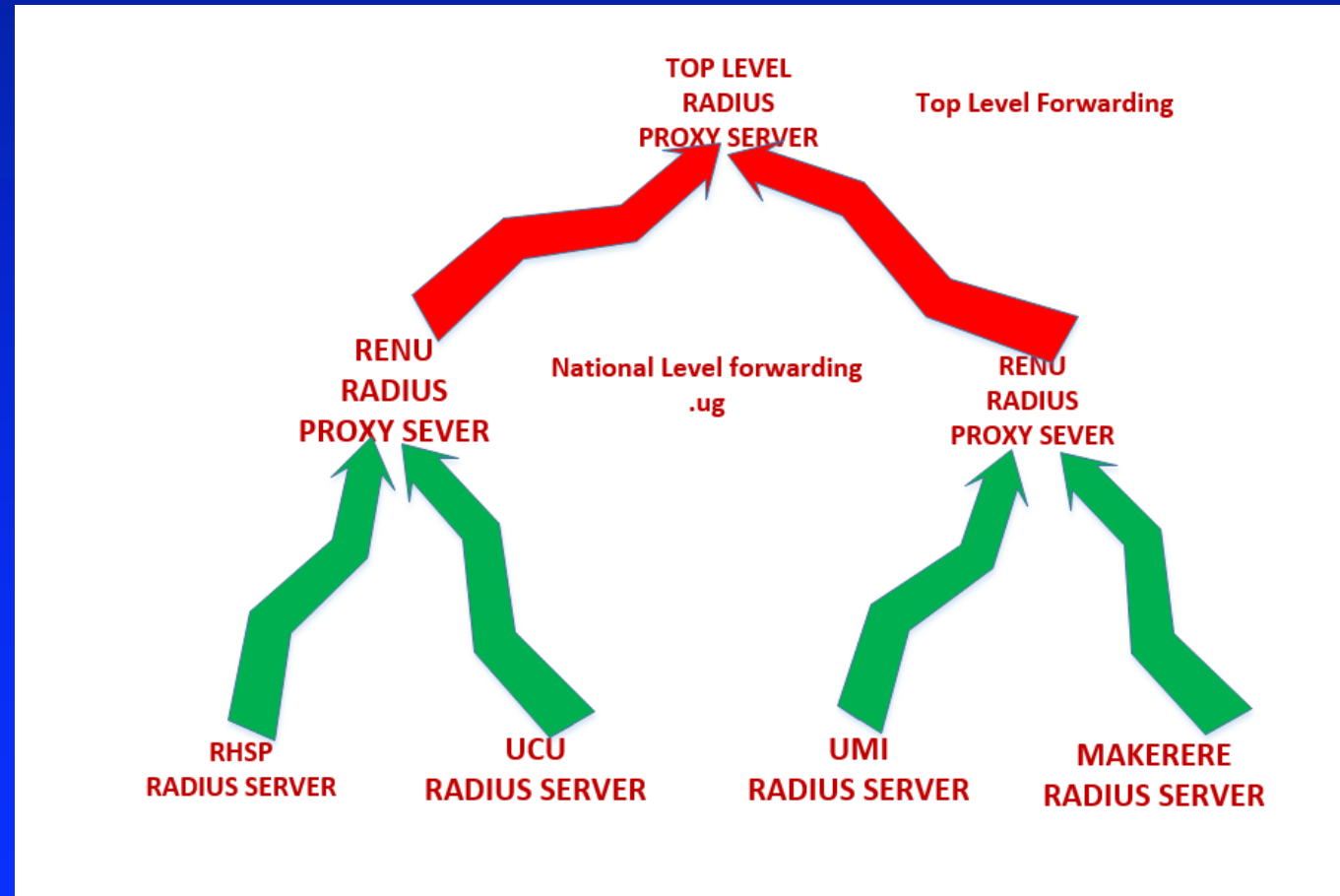


Specific DNS requirements

- RHSP does not use national TLD ending its federation
- RHSP.ORG is used instead of rhsp.ug
- Add dynamic discovery hints to RHSP IdP's DNS zone
- Coordinate with RENU on which discovery target to use
- DNS entry is of record type NATPR
- DNS hosting service with NATPR support mandatory
- Above fixes rhsp.org national roaming with in Uganda

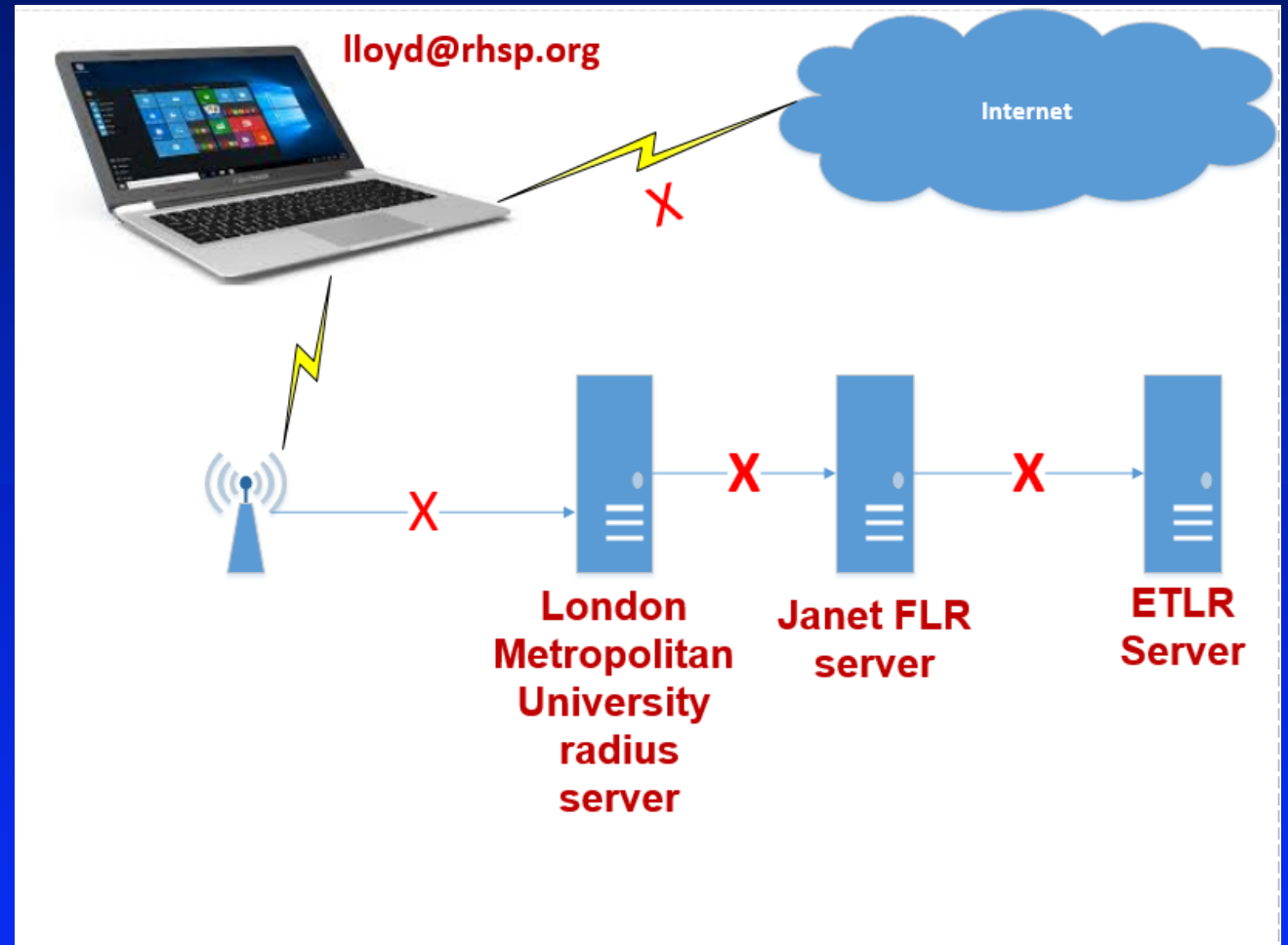


International Roaming not working



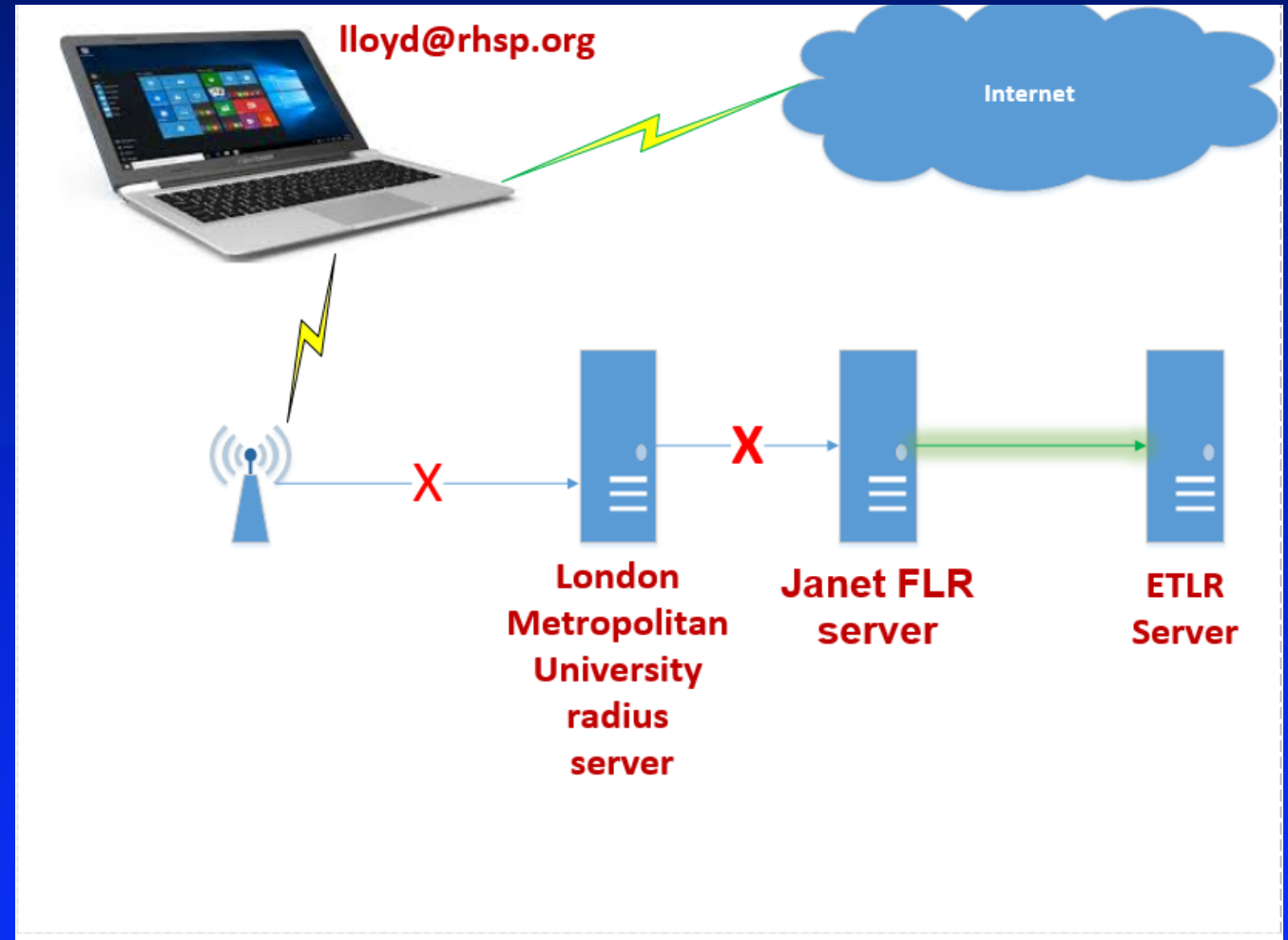
Why international roaming failed

- Janet FLR server-uk
National NREN
Federated Level
RADIUS SERVER
- ETLR- European
Top Level RADIUS
servers

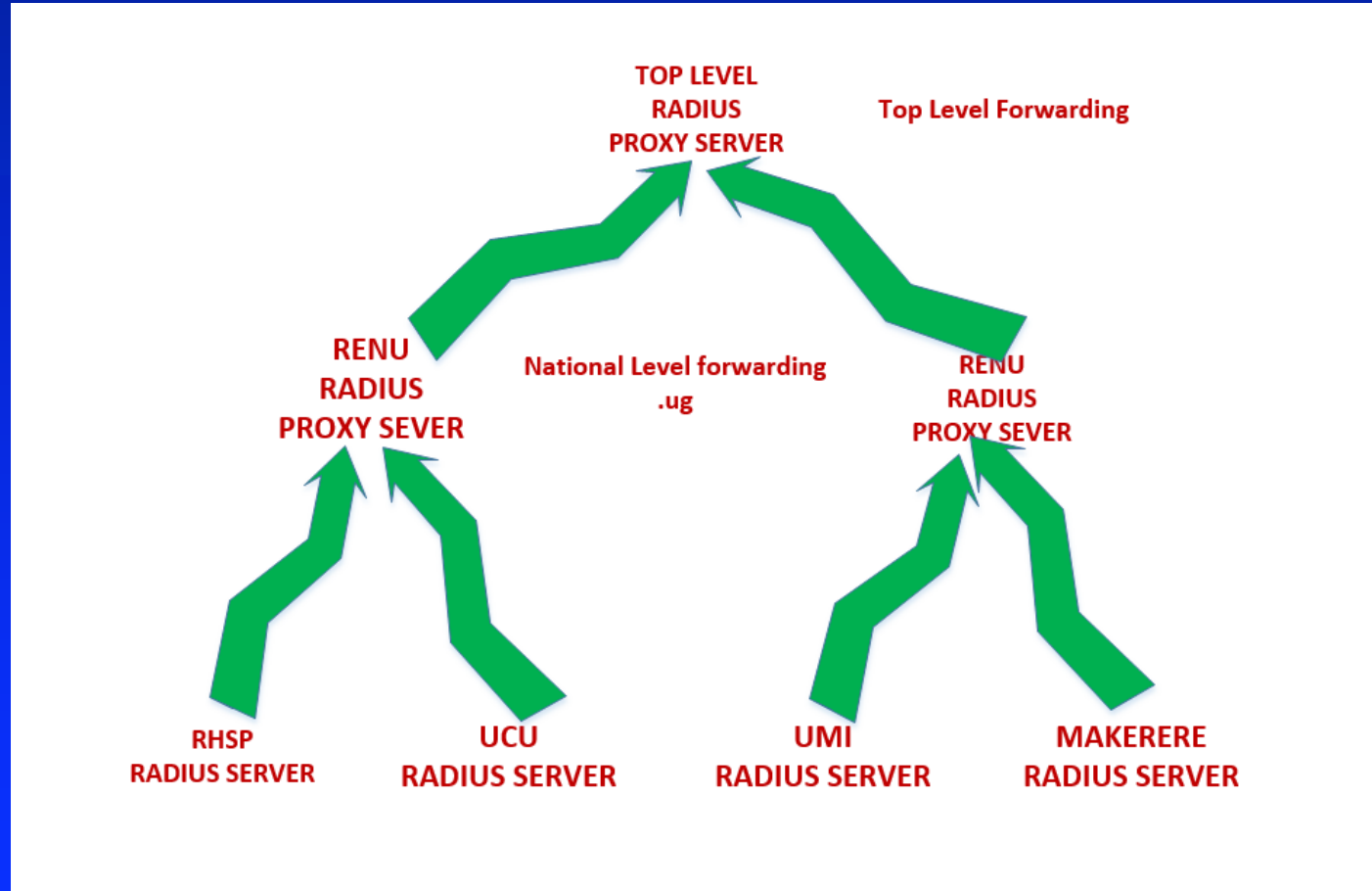


How international roaming was fixed

GEANT configured an exemption at the ETLR SERVER so that traffic from rhsp.org can be routed to RENU



Roaming for rhsp.org working worldwide



Locations we tested eduroam to be working

- **Internet2 meeting in Miami, Florida USA**
- **Paris-Sorbonne University, Paris France**
- **George Washington University, Washington DC**
- **Research and Education Network, RENU Uganda Offices**
- **London Metropolitan University, United Kingdom**



Conclusion

- Updated BPGs that can be bench marked on
- proper planning not to waste too much time
- coordination with the NREN during the planning and implementation
- Multi skilled staff for implementation and support
- NREN member institutions should consider using national TLDs ending there federation



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